

MEMC TO-01-2450 (3009)
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Falster et al
Serial No. 10/615,127
Filed July 24, 2003
Confirmation No. 8157

For PROCESS FOR PREPARING A STABILIZED IDEAL OXYGEN PRECIPITATING
SILICON WAFER

October 17, 2003

COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

SIR:

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 C.F.R. 1.97 and 1.98 and MPEP 609, and in compliance with the
duty of disclosure set forth in 37 C.F.R. 1.56, applicants submit copies of the references listed
* on the attached PTO/SB/08A for consideration by the Patent and Trademark Office in the above-
entitled application and to be made of record therein.

Respectfully submitted,

Steven M. Ritchey, Reg. No. 46,321
SENNIGER, POWERS, LEAVITT & ROEDEL
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
(314) 231-5400

SMR/cak

Express Mail Label No. EV 272753155 US

PTO/SB/08A		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/615,127
		Filing Date	July 24, 2003
		Confirmation Number	8157
		First Named Inventor	Falster et al
		Group Art Unit	
		Examiner Name	
Sheet 1 of 4	Attorney Docket No.	MEMC TP-01-2450 (3009)	

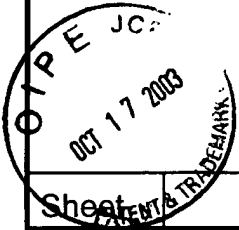
U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
	1	4,314,595		Yamamoto et al	02/09/1982
	2	4,376,657		Nagasawa et al	03/15/1983
	3	4,437,922		Bischoff et al	03/20/1984
	4	4,851,358		Huber	07/25/1989
	5	4,868,133		Huber	09/19/1989
	6	5,327,007		Imura et al	07/05/1994
	7	5,401,669		Falster et al	03/28/1995
	8	5,403,406		Falster et al	04/04/1995
	9	5,445,975		Gardner et al	08/29/1995
	10	5,502,010		Nadahara et al	03/26/1996
	11	5,502,331		Inoue et al	03/26/1996
	12	5,534,294		Kubota et al	07/09/1996
	13	5,561,316		Fellner	10/01/1996
	14	5,593,494		Falster	01/14/1997
	15	5,611,855		Wijaranakula	03/18/1997
	16	5,674,756		Satoh et al	10/07/1997
Examiner Signature				Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached or place an "A" here if English language abstract is attached..

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	10/615,127
				Filing Date	July 24, 2003
				Confirmation Number	8157
				First Named Inventor	Falster et al
				Group Art Unit	
				Examiner Name	
Sheet 2 of 4	Attorney Docket No. MEMC TP-01-2450 (3009)				



	17	5,738,942		Kubota et al	04/14/1998
	18	5,788,763		Hayashi et al	08/04/1998
	19	5,885,905		Nadahara et al	03/23/1999
	20	5,939,770		Kageyama	08/17/1999
	21	5,944,889		Park et al	08/31/1999
	22	6,191,010	B1	Falster	02/20/2001
	23	6,204,152	B1	Falster et al	03/20/2001
	24	6,306,733	B1	Falster et al	10/23/2001

FOREIGN PATENT DOCUMENTS

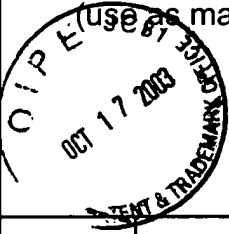
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T ⁶
		Office	Number ⁴	Kind Code ² (if known)			
	25	DE	43 23 964	A1	Nadahara et al	01/20/1994	
	26	EP	0 503 816	A1	Fusegawa et al	09/16/1992	
	27	EP	0 536 958	A1	Otakawa et al	04/14/1993	
	28	EP	0 954 018	A1	Sadamitsu et al	11/03/1999	
	29	EP	0 964 435	A1	Takeno et al	12/15/1999	
	30	JP	5155700		Atsushi et al	06/22/1993	A
	31	JP	7201874		Hirochika	08/04/1995	A

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached or place an "A" here if English language abstract is attached..

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/615,127
				Filing Date	July 24, 2003
				Confirmation Number	8157
				First Named Inventor	Falster et al
				Group Art Unit	
				Examiner Name	
Sheet	3	of	4	Attorney Docket No.	MEMC TP-01-2450 (3009)

	32	JP	7321120		Shiro et al	12/08/1995	A
	33	JP	7335657		Masahiko	12/12/1995	A
	34	JP	8045944		Takashi et al	02/16/1996	A
	35	JP	8045945		Yuhki et al	02/16/1996	A
	36	JP	9199416		Hidekazu et al	07/31/1997	A
	37	JP	11067781		Nobuyuki et al	03/09/1999	A
	38	JP	11150199		Maki	06/02/1999	A
	39	WO	98/38675		Falster et al	09/03/1998	
	40	WO	98/45507		Falster et al	10/15/1998	

OTHER ART - NON PATENT LITERATURE DOCUMENTS

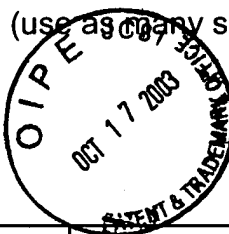
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	41	FALSTER, R., et al, The Engineering of Silicon Wafer Material Properties Through Vacancy Concentration Profile Control and the Achievement of Ideal Oxygen Precipitation Behavior, Mat. Res. Soc. Symp. Proc., vol. 510, 1998, p. 27-35	
	42	HARA, A., et al, Enhancement of Oxygen Precipitation in Quenched Czochralski Silicon Crystals, Journal of Applied Phys., Vol. 66, 1989, p. 3958-3960	
	43	HAWKINS, G.A., et al, Effect of Rapid Thermal Processing on Oxygen Precipitation in Silicon, Mat. REs. Soc. Symp. Proc., Vol. 104, 1988, p. 197-200	
	44	HAWKINS, G.A., et al, The Effect of Rapid Thermal Annealing on the Precipitation of Exygen in Silicon, J. Appl. Phys., Vol. 65, No. 9, 1989, p. 3644-3654	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached or place an "A" here if English language abstract is attached..

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) 				Application Number	10/615,127
				Filing Date	July 24, 2003
				Confirmation Number	8157
				First Named Inventor	Falster et al
				Group Art Unit	
				Examiner Name	
Sheet	4	of	4	Attorney Docket No.	MEMC TP-01-2450 (3009)

	45	JACOB, M., et al, Influence of TRP on Vacancy Concentrations, Mat. REs. Soc. Symp. Proc., Vol. 490, 1998, p. 129-134	
	46	NADAHARA, S., et al, Hydrogen Annealed Silicon Wafer, Solid State Phenomena, Vols. 57-58, 1997, p. 19-26	
	47	PAGANI, M., et al, Spatial Variations in Oxygen Precipitation in Silicon After High Temperature Rapid Thermal Annealing, Appl. Phys. Lett., Vol. 70, No. 12, 1997, p. 1572-1574	
	48	SHIMIZU, H., et al, Effects of Surface Defects (COPs) On Isolation Leakage and Gate Oxide Integrity in MOS Large-Scale-Integrated-Circuit Devices and Cost Effective p-lpEpitaxial Wafers, Electrochemical Society Proceedings, Vol. 99, No. 1, p. 315-323 (from a presentation on or about May 3, 1999)	
	40	SHIMIZU, H., et al., Excellence of Gate Oxide Integrity in Metal-Oxide-Semiconductor Large-Scale-Integrated Circuits Based on P-/P-Thin-Film Epitaxial Silicon Wafers, Jpn. J. Appl. Phys., Vol. 36, Part 1, No. 5A, 1997, p. 2565-2570	
	50	SHIMURA, F., Semiconductor Silicon Crystal Technology, Academic Press, Inc., San Diego, CA, 1989, p. 361-377	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached or place an "A" here if English language abstract is attached..

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.